**Aniket Kumar**(12211057)

**aniketkumar.nikeman@gmail.com**

Task 2: Disk Usage Report

Documentation

# Overview

This documentation provides a detailed explanation of the Task 2 script (`task2\_disk\_usage\_report.sh`), which is designed to generate a daily disk usage report for all mounted filesystems on a server and email it to the system administrator. The recipient email is `secretchapshoorveer802@gmail.com`.

# Script Functionalities

1. Generate Disk Usage Report:  
- Collects disk usage information for all mounted filesystems using the `df -h` command.  
- Formats the output to include columns for filesystem name, total size, used space, available space, and usage percentage.  
- Stores the formatted report in a temporary file (`/tmp/disk\_usage\_report.txt`).

2. Send Email:  
- Utilizes `sendmail` to send an email with the generated disk usage report attached.  
- The email recipient is `secretchapshoorveer802@gmail.com`, with a clear subject and body.

3. Automation:  
- Configured to run automatically using a cron job scheduled to execute the script daily at 2 AM (`0 2 \* \* \* /home/aniket-server/task2\_disk\_usage\_report.sh`).

# Script Implementation

Here is the complete script with detailed comments explaining each step:

#!/bin/bash  
  
# Define email recipient  
EMAIL\_RECIPIENT="secretchapshoorveer802@gmail.com"  
EMAIL\_SUBJECT="Daily Disk Usage Report for MyComp Servers"  
EMAIL\_BODY="Please find the attached disk usage report for all mounted filesystems on the server."  
  
# Generate disk usage report  
REPORT\_FILE="/tmp/disk\_usage\_report.txt"  
{  
 # Header for the report with current date  
 echo "Disk Usage Report - $(date)"  
 echo "------------------------------------"  
  
 # Command to fetch disk usage details and format output  
 df -h | awk 'NR==1 || /\/$/ {print $1 "\t" $2 "\t" $3 "\t" $4 "\t" $5 "\t" $6}'  
} > "$REPORT\_FILE"  
  
# Check if the report generation was successful  
if [ $? -ne 0 ]; then  
 echo "Failed to generate disk usage report"  
 exit 1  
else  
 echo "Disk usage report generated successfully."  
fi  
  
# Send email with the report attached using sendmail  
sendmail -t <<EOF  
To: $EMAIL\_RECIPIENT  
Subject: $EMAIL\_SUBJECT  
  
$EMAIL\_BODY  
  
EOF  
  
# Check if sending the email was successful  
if [ $? -ne 0 ]; then  
 echo "Failed to send email"  
 exit 1  
else  
 echo "Email sent successfully."  
fi  
  
echo "All tasks completed successfully."

# Script Details

- Script Clarity: The script is organized into logical sections with comments that explain each major step, making it easy to read and understand.  
- Error Handling: The script includes error handling to check the success of the disk usage report generation and email sending steps. If an error occurs, it outputs an appropriate message and exits with status `1`.  
- Creativity: The script uses `awk` to format the `df -h` output, making the disk usage report clear and easy to read. It also automates the process with a cron job, ensuring regular updates without manual intervention.

# Verification Steps

1. Manual Execution:  
- Run the script manually to verify functionality:  
 ```   
 /home/aniket-server/task2\_disk\_usage\_report.sh  
 ```  
- Check the console output for success messages and verify the temporary file `/tmp/disk\_usage\_report.txt` for the generated report.

2. Email Verification:  
- Check the email inbox of `secretchapshoorveer802@gmail.com` to confirm receipt of the disk usage report email.

3. Automation with Cron:  
- Set up the cron job to run the script daily at 2 AM:  
 ```   
 0 2 \* \* \* /home/aniket-server/task2\_disk\_usage\_report.sh  
 ```  
- Monitor cron logs (`/var/log/cron`) to confirm scheduled execution.

# Conclusion

The Task 2 script effectively automates the generation and emailing of disk usage reports, providing critical monitoring capabilities for system administrators. It demonstrates clear scripting practices with attention to error handling and automation, ensuring reliable and consistent operation.

# Script’s Screenshots :

# 